

<b>Notice of Allowability</b>	Application No.	Applicant(s)
	09/477,021	CHANDRUPATLA ET AL.
	Examiner	Art Unit
	Chau Nguyen	2176

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 08/24/2004.
2.  The allowed claim(s) is/are 1-77.
3.  The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Marc Hanish (Applicant's representative), registration No. 42,626 on 11/18/2004.

The application has been amended as follows:

1. (Previously Presented) A method for centrally managing a computer network, including:  
maintaining a central database of all NASes known to the computer network; and  
broadcasting a message from said central database to a NAS list located at each POP in  
the computer network whenever said central database is changed, said message containing  
information regarding the change such that a current version of said central database of all  
NASes known to the computer network is maintained at said NAS list located at each POP.
2. (Original) The method of claim 1, wherein all of said NASes known to the computer  
network are all NASes within the computer network which have been chosen as being valid.
3. (Original) The method of claim 1, wherein said maintaining is performed by a Network

Control Console.

4. (Original) The method of claim 3, wherein said Network Control Console is a graphical interface.

5. (Original) The method of claim 1, wherein said maintaining includes adding NASes, deleting NASes, and modifying the entries of NASes in said central database as the need arises.

6. (Original) The method of claim 1, wherein said broadcasting is performed automatically by a broker whenever a change to said central database is made.

7. (Original) The method of claim 1, wherein said broadcasting includes publishing a broker event via a broker.

8. (Currently Amended) A method for locally processing an access request at a Point-of-Presence (PoP) in a computer network having other PoPs, said access request received from a NAS, the method including:

accessing a list of network access servers (NASes) known to the PoP and known to the computer network, said list located locally at the PoP and periodically updated via communication with a central database of all NASes known to said computer network, wherein said central database broadcasts a message upon a change to said central database such that a current version of said central database of all NASes known to the computer network is

maintained at said list; and

validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received.

9. (Original) The method of claim 8, further including retrieving a user record from a database of user records located locally at said PoP, said database of user records containing records for only those users who have been identified as having the PoP as their home PoP.

10. (Original) The method of claim 8, wherein each entry in said list contains a field identifying a NAS and a field identifying a dictionary of attributes supported by the corresponding NAS.

11. (Original) The method of claim 10, wherein said dictionary of attributes is a RADIUS dictionary.

12. (Original) The method of claim 8, wherein said each entry in said list contains fields for:  
a domain name of a NAS;  
a vendor name of said NAS;  
a shared secret between all known NASes and AAA servers in the network; and  
a dictionary name, said dictionary name indicating a dictionary of attributes supported by said NAS.

13. (Original) The method of claim 12, wherein said validating further includes validating that said access request was received from a known entity by determining if the domain name that the access request was received from matches the domain name field of any entry in said list.

14. (Original) The method of claim 13, wherein said validating further includes examining whether a password supplied with said access request matches the shared secret field of a corresponding entry in said list if the domain name that the access request was received from matches the domain name field of any entry in said list.

15. (Original) The method of claim 12, wherein said dictionary of attributes is a standard RADIUS dictionary.

16. (Original) The method of claim 8, wherein said accessing and validating are performed by an Authentication, Authorization, and Accounting (AAA) server.

17. (Original) The method of claim 8, further including subscribing to a broker event to update said list whenever a NAS known to the computer network is added, deleted, or modified.

18. (Currently Amended) A method for handling an access request at a PoP, said access request generated by a user logging on to said PoP, said user having a home PoP, the method including:

accessing a list of network access servers (NASes) known to the PoP and known to a computer network containing the PoP, said list located locally at the PoP and periodically updated via communication with a central database of all NASes known to said computer network, wherein said central database broadcasts a message upon a change to said central database such that a current version of said central database of all NASes known to the computer network is maintained at said list;

validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received;

determining if said user's home PoP is said PoP;

forwarding said access request to an AAA server located at said PoP if said user's home PoP is said PoP; and

relaying said access request to said user's home PoP if said user's home PoP is not said PoP.

19. (Original) The method of claim 18, wherein said determining, forwarding, and relaying are performed by a Protocol Gateway.

20. (Original) The method of claim 18, wherein said determining includes examining a user name entered by said user.

21. (Original) The method of claim 20, wherein said determining further includes parsing said user name to reveal a PoP location indicated within said user name.

22. (Original) The method of claim 21, wherein said PoP location indicated within said user name is a city name as a prefix to said user name.
23. (Original) The method of claim 21, wherein said PoP location indicated within said user name is an abbreviation for a city name contained within a domain name affixed to the end of said user name.
24. (Original) The method of claim 20, wherein said determining further includes parsing said user name to reveal a domain name, said domain name indicating an ISP in control of said home PoP.
25. (Original) An apparatus for centrally managing a computer network including:
  - a central NAS list maintainer;
  - a NAS list broadcaster coupled to said central NAS list maintainer and coupled to said computer network, said NAS list broadcaster configured to broadcast a message from a central database to a NAS list located at each POP in the computer network whenever said central database is changed, said message containing information regarding the change such that a current version of said central database of all NASes known to the computer network is maintained at said NAS list located at each POP.
26. (Original) The apparatus of claim 25, wherein said central NAS list maintainer and said

NAS list broadcaster are contained within a Network Control Console.

27. (Original) The apparatus of claim 25, wherein said central NAS list maintainer is coupled to a central NAS list, said central NAS list containing entries for each NAS known to the computer network.

28. (Original) The apparatus of claim 27, wherein each NAS known to the computer network is a NAS which has been chosen as being valid.

29. (Original) The apparatus of claim 25, wherein said NAS list broadcaster is coupled to a broker.

30. (Currently Amended) An apparatus for locally processing an access request at a PoP in a computer network having other PoPs, said access request received from a NAS, the apparatus including:

a memory configured to store a NAS list, said NAS list containing entries on each NAS known to the PoP and known to the computer network and located locally at the PoP and periodically updated via communication with a central database of all NASes known to said computer network, wherein said central database broadcasts a message upon a change to said central database such that a current version of said central database of all NASes known to the computer network is maintained at said list;

a NAS list accessor coupled to said NAS list; and

an access request validator coupled to said NAS list accessor.

31. (Original) The apparatus of claim 30, further including:
  - a user record database located locally at said PoP, said user record database containing records for only those users who have been identified as having the PoP as their home PoP; and
  - a user record retriever coupled to said user record database and coupled to said access request validator.
32. (Original) The apparatus of claim 30, wherein each entry in said NAS list contains a field identifying a NAS and a field identifying a dictionary of attributes supported by the corresponding NAS.
33. (Original) The apparatus of claim 32, wherein said dictionary of attributes is a RADIUS dictionary.
34. (Original) The apparatus of claim 30, wherein said each entry in said list contains fields for:
  - a domain name of a NAS;
  - a vendor name of said NAS;
  - a shared secret between all known NAsEs and AAA servers in the network; and
  - a dictionary name, said dictionary name indicating a dictionary of attributes supported by said NAS.

35. (Original) The apparatus of claim 33, wherein said dictionary of attributes is a standard RADIUS dictionary.

36. (Original) The apparatus of claim 30, wherein said NAS list accessor and said access request validator are contained in an Authentication, Authorization, and Accounting (AAA) server.

37. (Original) The apparatus of claim 30, further including:  
a broker event subscriber coupled to said NAS list.

38. (Currently Amended) An apparatus for handling an access request at a PoP, said access request generated by a user logging on to said PoP, said user having a home PoP, the apparatus including:

a memory configured to store a NAS list, said NAS list containing entries on each NAS known to the PoP and known to a computer network containing the PoP, and located locally at the PoP and periodically updated via communication with a central database of all NASes known to said computer network, wherein said central database broadcasts a message upon a change to said central database such that a current version of said central database of all NASes known to the computer network is maintained at said list;

a NAS list accessor coupled to said NAS list;

an access request validator coupled to said NAS list accessor;

a user home PoP determiner; and  
an access request forwarder coupled to said user home PoP determiner, said access request forwarder coupled to an AAA server if the PoP is said user's home PoP and coupled to a computer network if the PoP is no said user's home PoP.

39. (Original) The apparatus of claim 38, wherein said user home PoP determiner and said access request forwarder are contained within a Protocol Gateway.

40. (Previously Presented) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for centrally managing a computer network, the method including:

maintaining a central database of all NASes known to the computer network; and  
broadcasting a message to a NAS list located at each POP in the computer network whenever said central database is changed, said message containing information regarding the change such that a current version of said central database of all NASes known to the computer network is maintained at said NAS list located at each POP.

41. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for locally processing an access request at a Point-of-Presence (PoP) in a computer network having other PoPs, said access request received from a NAS, the method including:

accessing a list of network access servers (NASes) known to the PoP and known to the

computer network, said list located locally at the PoP and periodically updated via communication with a central database of all NASes known to said computer network, wherein said central database broadcasts a message upon a change to said central database such that a current version of said central database of all NASes known to the computer network is maintained at said list; and

validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received.

42. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for handling an access request at a PoP, said access request generated by a user logging on to said PoP, said user having a home PoP, the method including:

accessing a list of network access servers (NASes) known to the PoP and known to a computer network containing the PoP, said list located locally at the PoP and periodically updated via communication with a central database of all NASes known to said computer network, wherein said central database broadcasts a message upon a change to said central database such that a current version of said central database of all NASes known to the computer network is maintained at said list;

validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received;

determining if said user's home PoP is said PoP;

forwarding said access request to an AAA server located at said PoP if said user's home

PoP is said PoP; and

                  relaying said access request to said user's home PoP if said user's home PoP is not said PoP.

43. (Previously Presented) An apparatus for centrally managing a computer network, including:

                  means for maintaining a central database of all NASes known to the computer network; and

                  means for broadcasting a message from said central database to a NAS list located at each POP in the computer network whenever said central database is changed, said message containing information regarding the change such that a current version of said central database of all NASes known to the computer network is maintained at said NAS list located at each POP.

44. (Previously Presented) The apparatus of claim 43, wherein all of said NASes known to the computer network are all NASes within the computer network which have been chosen as being valid.

45. (Previously Presented) The apparatus of claim 43, wherein said means for maintaining is a Network Control Console.

46. (Previously Presented) The apparatus of claim 45, wherein said Network Control

Console is a graphical interface.

47. (Previously Presented) The apparatus of claim 43, wherein said means for maintaining includes means for adding NASes, deleting NASes, and modifying the entries of NASes in said central database as the need arises.

48. (Previously Presented) The apparatus of claim 43, wherein said broadcasting is performed automatically by a broker whenever a change to said central database is made.

49. (Previously Presented) The apparatus of claim 43, wherein said means for broadcasting includes means for publishing a broker event via a broker.

50. (Currently Amended) An apparatus for locally processing an access request at a Point-of-Presence (PoP) in a computer network having other PoPs, said access request received from a NAS, the apparatus including:

means for accessing a list of network access servers (NASes) known to the PoP and known to the computer network, said list located locally at the PoP and periodically updated via communication with a central database of all NASes known to said computer network, wherein said central database broadcasts a message upon a change to said central database such that a current version of said central database of all NASes known to the computer network is maintained at said list; and

means for validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received.

51. (Previously Presented) The apparatus of claim 50, further including means for retrieving a user record from a database of user records located locally at said PoP, said database of user records containing records for only those users who have been identified as having the PoP as their home PoP.

52. (Previously Presented) The apparatus of claim 50, wherein each entry in said list contains a field identifying a NAS and a field identifying a dictionary of attributes supported by the corresponding NAS.

53. (Previously Presented) The apparatus of claim 52, wherein said dictionary of attributes is a RADIUS dictionary.

54. (Previously Presented) The apparatus of claim 50, wherein said each entry in said list contains fields for:

- a domain name of a NAS;
- a vendor name of said NAS;
- a shared secret between all known NASes and AAA servers in the network; and
- a dictionary name, said dictionary name indicating a dictionary of attributes supported by

said NAS.

55. (Previously Presented) The apparatus of claim 54, wherein said means for validating further includes means for validating that said access request was received from a known entity by determining if the domain name that the access request was received from matches the domain name field of any entry in said list.

56. (Previously Presented) The apparatus of claim 55, wherein said means for validating further includes means for examining whether a password supplied with said access request matches the shared secret field of a corresponding entry in said list if the domain name that the access request was received from matches the domain name field of any entry in said list.

57. (Previously Presented) The apparatus of claim 54, wherein said dictionary of attributes is a standard RADIUS dictionary.

58. (Previously Presented) The apparatus of claim 50, wherein said means for accessing and means for validating are an Authentication, Authorization, and Accounting (AAA) server.

59. (Previously Presented) The apparatus of claim 50, further including means for subscribing to a broker event to update said list whenever a NAS known to the computer network is added, deleted, or modified.

60. (Currently Amended) An apparatus for handling an access request at a PoP, said access request generated by a user logging on to said PoP, said user having a home PoP, the apparatus including:

means for accessing a list of network access servers (NASes) known to the PoP and known to a computer network containing the PoP, said list located locally at the PoP and periodically updated via communication with a central database of all NASes known to said computer network, wherein said central database broadcasts a message upon a change to said central database such that a current version of said central database of all NASes known to the computer network is maintained at said list;

means for validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received;

means for determining if said user's home PoP is said PoP;  
means for forwarding said access request to an AAA server located at said PoP if said user's home PoP is said PoP; and  
means for relaying said access request to said user's home PoP if said user's home PoP is not said PoP.

61. (Previously Presented) The apparatus of claim 60, wherein said means for determining, means for forwarding, and means for relaying are a Protocol Gateway.

62. (Previously Presented) The apparatus of claim 60, wherein said means for determining

includes means for examining a user name entered by said user.

63. (Previously Presented) The apparatus of claim 62, wherein said means for determining further includes means for parsing said user name to reveal a PoP location indicated within said user name.

64. (Previously Presented) The apparatus of claim 63, wherein said PoP location indicated within said user name is a city name as a prefix to said user name.

65. (Previously Presented) The apparatus of claim 63, wherein said PoP location indicated within said user name is an abbreviation for a city name contained within a domain name affixed to the end of said user name.

66. (Previously Presented) The apparatus of claim 62, wherein said means for determining further includes means for parsing said user name to reveal a domain name, said domain name indicating an ISP in control of said home PoP.

67. (Currently Amended) A method for managing a computer network, including:  
maintaining a central database of all NASes known to the computer network;  
broadcasting a message from said central database to a NAS list located at each POP in the computer network whenever said central database is changed, said message containing information regarding the change such that a current version of said central database of all

NASes known to the computer network is maintained at said NAS list located at each POP;  
receiving said message at said NAS list located at each PoP in the computer network;  
updating said NAS list to reflect the change;  
receiving an access request at a PoP, said access request generated by a user logging on  
to said PoP, said user having a home PoP;  
accessing said NAS list;  
validating that said access request was received from a known entity by determining if an  
entry exists in said list for the NAS from which the access request was received;  
determining if said user's home PoP is said PoP;  
forwarding said access request to an AAA server located at said PoP if said user's home  
PoP is said PoP; and  
relaying said access request to said user's home PoP if said user's home PoP is not said  
PoP.

68. (Previously Presented) The method of claim 67, wherein all of said NASes known to the  
computer network are all NASes within the computer network which have been chosen as being  
valid.

69. (Previously Presented) The method of claim 67, wherein said maintaining includes  
adding NASes, deleting NASes, and modifying the entries of NASes in said central database as  
the need arises.

70. (Previously Presented) The method of claim 67, wherein said broadcasting includes publishing a broker event via a broker.

71. (Previously Presented) The method of claim 67, wherein said central database and said PoP are operated by different corporate entities.

72. (Currently Amended) An apparatus for managing a computer network, including:  
means for maintaining a central database of all NASes known to the computer network;  
means for broadcasting a message from said central database to a NAS list located at each PoP in the computer network whenever said central database is changed, said message containing information regarding the change such that a current version of said central database of all NASes known to the computer network is maintained at said NAS list located at each POP;  
means for receiving said message at said NAS list located at each PoP in the computer network;  
means for updating said NAS list to reflect the change;  
means for receiving an access request at a PoP, said access request generated by a user logging on to said PoP, said user having a home PoP;  
means for accessing said NAS list;  
means for validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received;  
means for determining if said user's home PoP is said PoP;

means for forwarding said access request to an AAA server located at said PoP if said user's home PoP is said PoP; and

means for relaying said access request to said user's home PoP if said user's home PoP is not said PoP.

73. (Previously Presented) The apparatus of claim 72, wherein all of said NASes known to the computer network are all NASes within the computer network which have been chosen as being valid.

74. (Previously Presented) The apparatus of claim 72, wherein said means for maintaining includes means for adding NASes, means for deleting NASes, and means for modifying the entries of NASes in said central database as the need arises.

75. (Previously Presented) The apparatus of claim 72, wherein said means for broadcasting includes means for publishing a broker event via a broker.

76. (Previously Presented) The apparatus of claim 72, wherein said central database and said PoP are operated by different corporate entities.

77. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for managing a computer network, the method including:

maintaining a central database of all NASes known to the computer network;  
broadcasting a message from said central database to a NAS list located at each PoP in  
the computer network whenever said central database is changed, said message containing  
information regarding the change such that a current version of said central database of all  
NASes known to the computer network is maintained at said NAS list located at each POP;  
receiving said message at said NAS list located at each PoP in the computer network;  
updating said NAS list to reflect the change;  
receiving an access request at a PoP, said access request generated by a user logging on  
to said PoP, said user having a home PoP;  
accessing said NAS list;  
validating that said access request was received from a known entity by determining if an  
entry exists in said list for the NAS from which the access request was received;  
determining if said user's home PoP is said PoP;  
forwarding said access request to an AAA server located at said PoP if said user's home  
PoP is said PoP; and  
relaying said access request to said user's home PoP if said user's home PoP is not said  
PoP.

## REASONS FOR ALLOWANCE

1. The following is a statement of reasons for the indication of allowable subject matter:

In interpreting the claims in light of the specification and applicant's arguments, the Examiner finds the claimed invention is patentably distinct from the prior art of record.

The prior art of record includes Chuah et al. (Chuah), US Patent No. 6,400,722 and Holt et al., US Patent No. 6,070,192.

Chuah discloses in col. 1, lines 29-54 and col. 9, lines 10-48: plural inter-working function modules (IWFs) which are considered as network access servers (NASes) in the network; and col. 33, lines 45-53, col. 39, lines 28-54: NASes are connected to a data center (central database), and maintain a list of all IWFs (NASes) known to a home gateway.

Holt discloses a data access transport system comprising a plurality of network access server (NASes) and a network controller 12 connected to the network servers (col. 3, line 64 – col. 4, line 26). Holt also discloses a list of NAS identifiers stored in the network controller (database), and in addition, Holt discloses the network controller 12 may send a status indication to one or more NAS (col. 10, lines 25-46, and col. 12, line 27 – col. 13, line 7).

Claim 1 is allowed because the prior art of record does not expressly disclose alone or in combination broadcasting a message from said central database to a NAS list located at each POP in the computer network whenever said central database is changed, said message containing information regarding the change such that a current version of said central database of all NASes known to the computer network is maintained at said NAS list located at each POP.

Examiner finds the specification on page 1, lines 24-27, page 2, lines 14-19, page 5, lines 10-19 and col. 9, line 15 – col. 10, line 3 to be persuasive since the NAS list at each location will contain a list of all valid NASes (unlike user records) are updated only when the central database (where all NASes known to the computer network are maintained) is changed by broadcasting a message to a list of NASes located at each POP.

2. The dependent claims 2-7 further limit independent claim 1. Claims 8-77 are considered allowable for the same reasons set forth for claims 1-7.

*Drawings*

3. New formal drawings are required in this application because the drawings, filed on 01/03/2000, are informal. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to

the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau Nguyen whose telephone number is (571) 272-4092. The Examiner can normally be reached on Monday-Friday from 8:00 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Joseph Feild, can be reached at (571) 272-4090.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chau Nguyen  
Patent Examiner  
Art Unit 2176



JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER